



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,126	07/09/2004	Stephen Ray Foor	BA9297USPCT	5564
David E Heiser E I du Pont de Nemours & Company Legal Patents Wilmington, DE 19898				
7590 11/12/2009			EXAMINER	
SASAN, ARADHANA				
ART UNIT		PAPER NUMBER		
1615				
MAIL DATE		DELIVERY MODE		
11/12/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/501,126

Applicant(s)

FOOR ET AL.

Examiner

ARADHANA SASAN

Art Unit

1615

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-7, 9, 11, 17, 18, 20, 21 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) 9, 11, 18, 20, 21 and 24-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-7, 17, 29-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/02/09.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Application

1. The remarks and amendments filed on 07/02/09 are acknowledged.
2. Claims 1-2, 4-7, 9, 11, 17, 18, 20, 21, and 24-31 are currently pending.
3. Claims 9, 11, 26, 29 and 31 are currently amended.
4. Claims 3, 8, 10, 12-16, 19, and 22-23 were cancelled.

Information Disclosure Statement

5. The information disclosure statement (IDS) submitted on 07/02/09 is acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the examiner is considering the information disclosure statement.

See attached copy of PTO-1449.

Response to Arguments regarding Lack of Unity

6. Applicant's arguments, see Page 8, filed 07/02/09, with respect to the Lack of Unity set forth August 20, 2008 have been fully considered. Upon further consideration, a new Lack of Unity is set forth below.

Election/Restrictions

7. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-2, 4-7, 17-18, 20-21, 24-26, 29-31, drawn to a composition for controlling plant diseases caused by fungal plant pathogens comprising:

- (i) **(a)** at least one compound of Formula I,
- (ii) **(b)** selected from the group consisting of (b2) compounds acting at the bc_1 complex of the fungal mitochondrial respiratory electron transfer site;
and optionally
- (iii) at least one compound selected from the group consisting of (b1), (b3), (b4), (b5), (b6), (b7), (b8), and (b9).

Group II, claim(s) 9, 11, 27 and 28, drawn to a method for the preventive control of plant disease caused by the pathogen *Phytophthora infestans* in potato plants.

As set forth in Rule 13.1 of the Patent Cooperation Treaty (PCT), "the international application shall relate to one invention only or to a group of inventions." Moreover, as stated in Rule 13.2 PCT, Unity of Invention is satisfied "where a group of inventions is claimed in one and the same international application, the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art so linked as to form a single general inventive concept."

Rule 13.2, AI Annex B, Part I(b)

10.02 Whether or not any particular technical feature makes a "contribution" over the prior art, and therefore constitutes a "special technical feature," is considered with respect to novelty and inventive step. For example, a document discovered in the international search shows that there is a presumption of lack of novelty or inventive step in a main claim, so that there may be no technical relationship left over the prior art among the claimed inventions involving one or more of the same or corresponding special technical features, leaving two or more dependent claims without a single general inventive concept.

The technical feature linking groups I-II is a composition comprising:

(i) **(a)** at least one compound of Formula I, and

(ii) **(b)** selected from the group consisting of (b2) compounds acting at the bc₁ complex of the fungal mitochondrial respiratory electron transfer site.

Moloney et al. (US 6,503,933) discloses compounds that are phytopathogenic fungicides with the same structure as formula I of the instant application. Formula I of Moloney has substituents that are included in part (a) of Formula I of the instant application (Col. 1, lines 7-50). Component (a) of Formula 1, as disclosed in instant claim 17, is 2,6- dichloro-N-[[3-chloro-5-(trifluoromethyl)-2-pyridinyl]methyl]benzamide, is disclosed by Moloney in Col. 9, Table 1, Compound 21.

Since the compounds of Formula I are known in the art, the compounds cannot constitute the "special technical feature" which links the claims.

Bereznak et al. (US 6,066,638) teaches employing combinations of fungicides (Col. 68-70, Col. 69, lines 46-49). The combination of famoxadone (Col. 70), which is a b2 compound, and metalaxyl (Col. 69), which is a b6 compound, is suggested by Bereznak.

Therefore, it would have been obvious to combine any of the compounds of Formula I with any of (b1)-(b9) and claim 1 lacks a "special technical feature". The

technical feature linking the inventions of groups I-II does not constitute a special technical feature as defined by PCT Rule 13.2 as it does not define a contribution over the prior art.

As a result, as currently presented, the instant claims drawn to a composition comprising:

(i) (a) at least one compound of Formula I,

(ii) (b) selected from the group consisting of (b2) compounds acting at the bc_1 complex of the fungal mitochondrial respiratory electron transfer site;

and optionally

(iii) at least one compound selected from the group consisting of (b1), (b3), (b4), (b5), (b6), (b7), (b8), and (b9).

do not share a special technical feature with the claims drawn to a method for the preventive control of plant disease caused by the pathogen *Phytophthora infestans* in potato plants and, as such, unity between the above Groups I – II is broken.

Election of Species

8. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

9. The species of **a compound of Formula I** are as follows:



wherein

A is a substituted pyridinyl ring; B is a substituted phenyl ring;

W is C=O, or SO₂; L is O or S;

R¹ and R² are each independently H; or C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl or C₃-C₆ cycloalkyl, each optionally substituted;

R³ is H; or C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₆ cycloalkyl, C₂-C₁₀ alkoxyalkyl, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₂-C₆ alkylaminocarbonyl or C₁-C₆ dialkylaminocarbonyl;

and n is 1 or 2; and

Applicant is required to elect a specific compound of Formula I.

10. The species of **composition** are as follows:

1. a composition comprising:

(i) (a) at least one compound of Formula I,

(ii) (b) selected from the group consisting of (b2) compounds acting at the bc₁ complex of the fungal mitochondrial respiratory electron transfer site;

2. a composition comprising:

(i) (a) at least one compound of Formula I,

(ii) (b) selected from the group consisting of (b2) compounds acting at the bc₁ complex of the fungal mitochondrial respiratory electron transfer site; and

(iii) at least one compound selected from the group consisting of (b1), (b3), (b4), (b5), (b6), (b7), (b8), and (b9).

If applicant selects Group I, one species of a composition (1) or (2) listed above must be chosen to be fully responsive.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: composition (1) listed above does not require (b1), (b3), (b4), (b5), (b6), (b7), (b8), and (b9) and composition (2) requires at least one compound selected from the group consisting of (b1), (b3), (b4), (b5), (b6), (b7), (b8), and (b9).

11. If Applicant elects the species of composition (2), a **further election of component (iii)** listed above, i.e., one of (b1), (b3), (b4), (b5), (b6), (b7), (b8), and (b9) is required.

12. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

13. In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to

be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. Failure to do so may result in a loss of the right to rejoinder. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

14. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention. The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

15. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions

unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

16. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Election by Applicant

17. On October 20, 2008 Applicant elected (in response to a lack of unity mailed August 20, 2008) the following:

- claims 1, 6 and 7
- the specific combination of the compound of claim 17 as a species of component (a)
- famoxadone as a species of component (b2), and
- metalaxyl as a species of component (b6)

18. Therefore, in light of Applicant's previous election and the lack of unity/election of species requirement (in points 7-11 above), claims 9, 11, 18, 20, 21, and 24-28 are withdrawn from consideration as being drawn to nonelected inventions and species, there being no allowable generic or linking claim.

19. Claims 1, 2, 4-7, 17, and 29-31 are included in the prosecution.

20. An office action on the merits follows.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 1, 2, 4-7, 17, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moloney et al. (US 6,503,933) in view of Bereznak et al. (US 6,066,638), and further in view of Jordan et al. (Pesticide science 55:105-118 (1999)).

The elected invention is a composition for controlling plant diseases caused by fungal plant pathogens comprising: (a) at least one compound of formula I of claim 1, N-oxides and agriculturally suitable salts thereof



wherein

A is a substituted pyridinyl ring;

B is a substituted phenyl ring;

W is C=L or SO₂;

L is O or S;

R¹ and R² are each independently H; or C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl or C₃-C₆ cycloalkyl, each optionally substituted;

R³ is H; or C₁-C₈ alkyl, C₂-C₈ alkenyl, C₂-C₆ alkynyl, C₃-C₆ cycloalkyl, C₂-C₁₀ alkoxyalkyl, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₂-C₆ alkylaminocarbonyl or C₃-C₈ dialkylaminocarbonyl; and

n is 1 or 2; and

(b) a compound acting at the bc_1 complex of the fungal mitochondrial respiratory electron transfer site; and optionally at least one compound selected from the group consisting of (b1), (b3)-(b9).

Applicant elected the compound of claim 17 (2,6-dichloro-N-[[3-chloro-5-(trifluoromethyl)-2-pyridinyl]methyl]benzamide) as a species of component (a), famoxadone as a species of component (b2), and metalaxyl as a species of component (b6) in the reply filed on October 20, 2008.

Moloney discloses compounds that are phytopathogenic fungicides with the same structure as formula I of the instant application. Formula I of Moloney has substituents that are included in part (a) of Formula I of the instant application (Col. 1, lines 7-50). Component (a) of Formula 1, as disclosed in instant claim 17, is 2,6-dichloro-N-[[3-chloro-5-(trifluoromethyl)-2-pyridinyl]methyl]benzamide, is disclosed by Moloney in Col. 9, Table 1, Compound 21.

Moloney does not expressly teach component (b2) a compound acting at the bc_1 complex of the fungal mitochondrial respiratory electron transfer site, or component (b6) a phenylamide fungicide.

Bereznak teaches fungicidal pyrimidinones. An example of an "agricultural protectant" is 5-methyl-5-(4-phenoxyphenyl)-3-phenylamino-2, 4-oxazolidinedione (Col. 69, lines 61-63). This compound can be mixed with fungicidal pyrimidinones "for better control of plant diseases caused by fungal plant pathogens" (Col. 69, lines 51-52). This compound is famoxadone. Bereznak also teaches metalaxyl as fungicides that can be

mixed with one or more other fungicides for an even broader spectrum of agricultural protection (Col. 68, lines 57-64 and Col. 69, lines 26 and 60).

As Jordan teaches, famoxadone is an inhibitor of "mitochondrial electron transport, specifically inhibiting the function of the enzyme ubiquinol:cytochrome c oxidoreductase (cytochrome bc₁) (Abstract). Jordan also teaches that metalaxyl is a known fungicide (Page 112, left hand column, under 3.1 Early mode of action studies on fungicide 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use 2,6-dichloro-N-[[3-chloro-5-(trifluoromethyl)-2-pyridinyl]methyl]benzamide, as disclosed by Moloney, and combine it with the "agricultural protectant" famoxadone (5-methyl-5-(4-phenoxyphenyl)-3-phenylamino-2,4-oxazolidinedione) and the fungicide metalaxyl, as taught by Berezna and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because the composition of formula I(a) as taught by Moloney, can include additional active ingredients such as compounds with fungicidal properties (Moloney, Col. 3, lines 29-32). Metalaxyl is a known fungicide, as evidenced by Berezna (Col. 68, lines 57-64 and Col. 69, lines 26 and 60) and Jordan (Page 112, left hand column, under 3.1 Early mode of action studies on fungicide 1). Furthermore, Berezna also teaches the advantage of combining compounds with fungicidal properties as having "an even broader spectrum of agricultural protection" (Col. 68, lines 58-64).

Regarding instant claims 1-2, 4-7, 17, and 29-30, the composition comprising components (a), (b2), and (b6) would have been obvious over the 2,6-dichloro-N-[[3-chloro-5-(trifluoromethyl)-2-pyridinyl]methyl]benzamide (component (a)), as disclosed by Moloney (Col. 9, Table 1, Compound 21), in view of the combination of this component with an "agricultural protectant" famoxadone (5-methyl-5-(4-phenoxyphenyl)-3-phenylamino-2, 4-oxazolidinedione), and the fungicide metalaxyl, as taught by Berezna (Col. 69, lines 26, 51-52, and 60-63, Col. 68, lines 57-64).

Regarding instant claims 7 and 31, the limitations of the weight ratio of component (b) to component (a) that is from 30:1 to 1:30, the weight ratio of component (b2) to component (a) that is from 10:1 to 1:1, and the weight ratio of 2,6-dichloro-N-[[3-chloro-5-(trifluoromethyl)-2-pyridinyl]methyl]benzamide (component (a)) to famoxadone (component (b2)) would have been obvious to one with ordinary skill in the art because during the process of routine experimentation, titration of various levels of components would be carried out in order to optimize the efficacy of the composition in controlling fungal pathogens in plants.

Conclusion

23. Due to the new grounds of rejection, this action is made non-final.
24. No claims are allowed.
25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aradhana Sasan whose telephone number is (571) 272-9022. The examiner can normally be reached Monday to Thursday from 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax, can be reached at 571-272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Aradhana Sasan/
Examiner, Art Unit 1615

/Robert A. Wax/
Supervisory Patent Examiner, Art Unit 1615